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S-E-C-R-E-T

COUNTRY Poland

REPORT

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SUBJECT Polish Armament Industry, *Survey including growth, changes, administration and production with a sketch map showing locations*

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1. [redacted] report on the Polish armament industry giving background information on the growth, changes, and administration of the industry and on armament production. In addition the report contains information on the following central administrations:

- a. Central Administration for Mechanical Equipment
- b. Central Administration for Precision Equipment
- c. Central Administration for Means of Communications, p 15
- d. Central Administration for the Telecommunications Industry
- e. Central Administration for the Lamp Industry
- f. Central Administration for Auxiliary and Optical Equipment

2. A sketch map showing the location of Polish arms industries accompanies the report.

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Report on Poland's Armament Industry

Contents:

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2. Changes
3. Administration
4. Armament Production

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- " II. " " Precision Equipment
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- " IV. " " the Telecommunication Industry
- " V. " " Lamp Industry
- " VI. " " Auxiliary and Optical Equipment
- " VII. Map showing location of Polish arms industries.

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Report on Poland's Arms Industry

The present report has been composed primarily on [redacted]

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the Polish arms industry. In many instances, the information has been contradictory or vague. By and large, the overall picture given should be correct. Specific statements relative to the scale of production must be taken with reservations.

1. Growth

Prior to the outbreak of the Korean War in June of 1950, the Satellite States had no armament industry. The war materiel required was obtained from the Soviet Union in exchange for nonmilitary goods.

During the Korean War, the Satellites were instructed to build up an armament industry of their own. During 1951 - 1953, war materials plants were built in Poland, preparations were made for the delivery of raw materials, and plans were worked out.

Designers, technicians, and supervisors were furnished by the Soviet Union. Poland obtained machines and other equipment from the Soviet Union, primarily, partly on credit, and partly for cash payment. Machinery was imported from East Germany and Czechoslovakia also. Some machine tools were purchased [redacted] Poland obtained a sizable loan [redacted] 25X1 for armaments from the Soviet Union in 1954.

Until the autumn of 1956, the arms industry enjoyed priority over other industries in regard to investment appropriations, deliveries of raw materials, qualified technicians and workers, etc. Thus, for example, specialists were transferred to the arms industry from other industries, without consideration for the possibilities such industries had of finding replacements. Wages in the arms industry were above the general wage level. Yet the wages in this branch were raised again at the end of 1955. To satisfy

investment requirements in this industry, appropriations for other branches of industry had to be cut down. This did not happen in accordance with any plan, but was the result of circumstances and need.

As cover for their operations, several arms factories were also assigned the task of producing nonmilitary goods, although to a limited extend.

The production capacity of the armament industry did not become impressive until late in 1953 or early in 1954. This period coincides with Malenkov's so-called consumer-friendly deal for the East Bloc, as a result of which Poland revised the production goals of the 6-year plan, ostensibly to increase the production of consumer goods. It is fair to assume that most of the production capacity liberated was transferred to the armament industry.

Investments in the armament industry reached their peak toward the end of 1955. The largest and most important investments went into factories producing all kinds of firearms and ammunition, jet-propelled planes, tanks, and radar, in that order. On the whole, the expansion was completed by New Year's 1956.

The Polish arms industry constitutes a part of the arms industry of the Communist Bloc, and complements that of the USSR. In round figures, three fourth of its production, in certain cases more, went to the USSR, at least up to the fall of 1956. For these deliveries, no payment was received, with certain exceptions, on the justification that the USSR strengthened the security of Poland. However, in exchange for the arms deliveries Poland received some raw materials required by the arms industry. As a whole, this industry has doubtless been a great burden to the Polish economy. The heavy emphasis on arms production has also been one of the primary causes of the very troublesome inflation in Poland.

2. Changes

Prior to the return of Gomulka (October 1956), no signs were apparent of a reduction of the arms production. Immediately afterward, however, instructions were given the arms industry for a five percent reduction of production.

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During the political tension which arose during the fall between Poland and the USSR, Soviet managers, instructors, and supervisors were being discharged from the arms industry. At the same time, economic strife developed between Poland on the one hand and the USSR and the other satellites on the other. At its culmination, this strife resembled a trade war, which led to a reduction of raw materials deliveries from the other Communist Bloc countries to Poland, Soviet iron ore among them.

Soviet concern over a possible Polish break [away from the Communist Bloc] was considerable at this time. As early as in November (Gomulka's visit to Moscow), the USSR is reported to have demanded a radical reduction, and in certain cases (jet aircraft, tanks, and certain types of artillery) a stop, of war [Polish] materials production.

Around New Year's 1957, [redacted] the arms industry to a considerable extent had ceased production. An effort toward conversion to civilian production was noticeable.

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The increase in steel production in 1957 will amount to only seven percent (13 percent in 1956), which can be traced back to the diminished imports of raw materials and reduction of arms production.

[redacted] a certain amount of renewed activity has been evident.

[redacted] the Soviets [redacted] demanded resumption of production by the [Polish] arms industry.

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[redacted] a considerable number of the dismissed Soviet advisers and supervisors have returned to their former positions. It had not been the Soviet intention to reduce the production compared to what it had been previously. In view of Poland's strained economic position, this was considered unfortunate even by Communist circles in Poland.

3. Administration

All arms production has been centralized under the ministry for the machine industry, (Ministerstwo Przemyslu Maszynowego). Both the arms

industry and the civilian machinery industry are subordinate to this ministry.

In 1955 and up to May 1956, there was a separate ministry for the arms industry, the ministry for the motor industry (Ministerstwo Przemyslu Motoryzacyjnego).

1. The Ministry is divided in five departments (Departament).

a. The Military Department (Departament Wojskowy) handles planning of production of various weapons types and supervises the arms factories.

[redacted] headed by General LEWANDOWSKI. In this department, in which about 60 army officers work, there are card files on all persons employed in the arms industry.

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b. The Planning and Production Department (Departament Planowania i Produkcji), headed [redacted] by a man, ZELCZAK, of the Security Police, receives daily production reports from the central managements (Centralny Zarzad) of the various branches of the machinery industry. In this department, which keeps the most detailed statistics on Polish arms production, books are kept on the production of about 3,500 items. The department has about 60 employees, all of them civilians.

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c. The Technical Department (Departament Techniczny) works on problems of design. [redacted] was headed by Stefan JARZABEK.

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d. The Investment Department (Departament Inwestycyjny) was headed by CZERKOWSKI.

e. The Finance and Administration Department (Departament Zarzadu Administracji Gospodarczej) was headed by Marian ECKERT.

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2. Seventeen central administrations for various branches of industry are subordinate to the ministry. Of these 17, the following six deal with arms production.

a. The Central Administration for Mechanical Equipment (Centralny Zarzad Mechaniczny) is responsible for the production of various kinds of artillery and tanks.

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b. The Central Administration for Precision Equipment (Centralny Zarzad Wyrobów Precyzyjnych) is responsible for the production of hand weapons, ammunition, and explosives. [redacted] the production of artillery shell cases is the responsibility of the administration dealt with under point a.

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c. The Central Administration for Means of Communications (Centralny Zarzad Sprzętu Komunikacyjnego) is responsible for the production of military aircraft.

d. The Central Administration for the Telecommunications Industry (Centralny Zarzad Przemysłu Teletechnicznego) is responsible for the production of radio transmitters and receivers, radar equipment, telephones, etc.

e. The Central Administration for the Lamp Industry (Centralny Zarzad Przemysłu Lampowego) is concerned with the production of poison gases.

f. The Central Administration for Auxiliary Apparatus and Optics (Centralny Zarzad Pomocniczych i Optycznych) supervises the production of optical glass for military purposes, certain glass parts for aircraft, etc.

As a cover for their real production, almost every arms factory subordinate to the above mentioned Central Administrations produces an insignificant amount of civilian goods.

The distribution of arms enterprises among the various Central Administrations made in this report met with certain difficulties. This applies particularly to the Central Administrations dealt with under points a. and b., [redacted] In addition, it seems that the names of the arms production enterprises are being changed, while their production remains unaltered. Further, it is doubtful whether the enterprises are subordinate to one Central Administration only. If their production is very much varied, it may be that they are subordinate to more than one administration.

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Not all of the enterprises which produce war materiel are included in the appendices. [redacted]

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[redacted] there are also a number of enterprises that are not subordinate to the Central Administrations of the arms industry, but nevertheless produce considerable quantities of products and parts for military purposes.

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4. Arms Production

The production figures for the arms industry given in the following may seem high, but it should be taken into consideration that the greater part of Polish industry was [redacted] engaged in arms production. The arms industry enjoyed a preferred position in the economy.

It should also be pointed out that Polish industry has a considerable production capacity. [redacted]

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Further, the very small expenditure for research and design must be taken into consideration. Hitherto, [redacted] drawings and 25X1 design information has been obtained from the USSR. This is confirmed by the fact, among other things, that the war material produced in Poland is mainly made up of Soviet models.

It is also possible that the Polish arms industry obtains raw materials and finished and semi-finished products from other Communist Bloc countries at very advantageous prices.

In view of these circumstances the possibility that the relatively high production figures lie within the bounds of the possible should not be excluded.

The following branches of the arms industry were built up from the bottom:

Production of the Soviet tank T-34/85 (discontinued in 1956 and the T-52 substituted).

Production of the Soviet MIG aircraft (two different types, the LIM 2, or MIG 15; and the LIM 5, or MIG 17).

Production of various kinds of artillery, automatic cannon for jet fighter aircraft, and ammunition.

Production of army pistols.

Production of radar equipment.

[redacted] the following totals for ammunition production are given: 25X1

- a. for anti-tank guns 180,000 rounds per month
- b. for anti-aircraft guns 230,000 " " "
- c. for aircraft guns 300,000 " " "

Poland is permitted to retain about 25 percent of the two first categories, and about 10 percent of the aircraft gun ammunition.

The production of pistols amounts to about 21,000 per month.

The production of fighter aircraft is said to have varied from 45 to 60 per month up to the end of 1956.

APPENDIX I

The Central Administration for Mechanical Equipment (Centralny Zarzad Urzadzen Mechanicznych) is responsible for the production of tanks, artillery of all kinds, and probably also aircraft armament (LIM 2 and LIM 5). Everything has been produced to Soviet license. About 75 percent of the production, at times more, has been going to the USSR.

In addition to the three steel mills of Stalowa Wola, Labedy, and Malapanew, the following more important plants were subordinate to this administration [redacted]

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- a. Wytwornia Urzadzen Mechanicznych Wroclaw
- b. " " " Zielona Gora
- c. " " " Rzeszow
- d. " " " Mielec
- e. " " " Myslakowice
- f. " " " Stara Wies
- g. " " " Dobre Miasto
- h. " " " Ustka
- i. " " " Katowice
- j. " " " Tarnow
- k. " " " Poreba

The largest depot for tanks and spare parts for tanks seems to be located in Niewiadow. [redacted] no Poles were permitted access to this depot.

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Large stores of war materiel are also found in Wroclaw, and in Warsaw-Mokotow near the Okocie airfield, at the end of Ulica Racisawicka near the Warsaw II radio transmitter.

a. Raw Material Supply of the Steel Mills in Arms Production.

The three most important steel mills producing for the arms industry are Stalowa Wola, Labedy, and Malapanew. The greater part of the steel

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requirements of these mills is covered by the "civilian" steel mills. The production of the steel mills producing for the arms industry consists of special steels. [redacted] all of this production went to the arms industry, and these plants covered one half of the requirements of such steels [redacted]. The balance of the required special steels were obtained mainly from the USSR, East Germany, and Czechoslovakia.

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Obtaining iron ore is one of the greatest problems of the Polish steel industry. The country depends for three quarters of its iron ore upon imports, 70 percent of which are obtained from the USSR. Imports of four million tons of iron ore from the USSR has been planned [redacted]. The whole iron and steel industry, and consequently also the arms industry, is to a considerable degree dependent upon the USSR. Poland's opportunities to obtain iron ore from other countries are severely limited.

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As concerns also nickel, chromium, molybdenum, wolfram, copper, and other metals of importance to the arms industry, Poland is dependent on other countries, particularly the USSR.

b. The expansion of Stalowa Wola, located about five kilometers south south-east of Rozwadow (Latitude 50° 35' North; Longitude 22° 2' East), was completed in February 1955. The mill then had two blast furnaces, at least three open hearth furnaces with a capacity of 100 tons per day, a rolling mill of considerable size, a large foundry section having five buildings, a forge, and at least six "production shops" for the manufacture, among other things, of tank components. At the other end of the town are found underground work shops.

The plant employs about 3,000 workers [redacted]

[redacted] managed by a Russian. The

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plant has had no Soviet advisers.

Up to 1954, Stalowa Wola was a center for the production of tank components, assembly of tanks of type T-34/85, and production of antiaircraft guns. [redacted] 100 and 120 millimeter artillery

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pieces, m/28 automatic rifles, and m/33 pistols were also produced). In 1954, the labor force was cut down by 20 percent. The tank assembly operations were moved to the Labedy steel mill. Since that time, Stalowa Wola has not produced tanks, but only certain tank parts.

Most of the antiaircraft gun assembly operations were also moved to Labedy. Previously to that, about 150 had been produced per month. Poland was permitted to keep 20 of these, the rest was sent to the USSR. At the same time, about 250,000 per month of shell cases for these guns were made, of which Poland was permitted to keep about 25 percent. The transfer to Labedy of the antiaircraft gun assembly operations has taken place gradually. To a certain extent this operation was still going forward in Stalowa Wola

[redacted] as was the production of ammunition, which had probably not been cut down.

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c. The Labedy Steel Works, located in Labedy, about five kilometers west of Gliwice (Latitude 50° 18' North; Longitude 18° 40' East), is the largest and most modern enterprise of the Polish arms industry. Expansion and modernization of the plant began as early as in 1947, but was not purposefully carried forward until 1952. [redacted] the plant had "several" blast furnaces, four electric furnaces, an ingot rolling mill, a large rolling mill, seven to ten foundry shops, four large workshops, and numerous smaller workshops.

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[redacted] the plant employed about 11,000 workers, who worked in shifts.

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[redacted] the main production of the Labedy plant consisted of tank components and assembled tanks of type T-34/85. The production amounted to 30 to 50 tanks per month, of which Poland was permitted to keep three or four, the rest being turned over to the USSR. Some of these tanks were assigned to Soviet bases in Poland.

[redacted] the tank production was discontinued. [redacted]

[redacted] however, it was started up again, [redacted] of the type T-54. [redacted]

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[redacted] casting had been completed of some tank turrets. It was estimated that four tanks would be completed [redacted] The number produced of the new tank [redacted] has been estimated at more than 100 [redacted]

In addition to tanks, certain parts for anti-tank guns are also made in Labedy. Such guns are also assembled -- about 150 per month [redacted]

[redacted] (Poland retained about one fourth of them). In addition, about 70 anti-aircraft guns were produced per month, of which Poland was permitted to keep four or five.

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A rather small section of the plant has been producing civilian goods, among them parts for railroad cars. [redacted] this production was insignificant. When the tank production was cut down [redacted] Labedy is supposed to have begun producing excavators, tractors, and washing machines. [redacted]

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d. Malapanew (Latitude 50° 40' North; Longitude 18° 12' East), at Ozimek, [redacted] ten kilometers] east of Opole.

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[redacted] this plant had two blast furnaces, nine open hearth furnaces, a rolling mill, and a large foundry.

The main production consisted of ammunition for anti-tank guns, anti-aircraft guns, and aircraft guns. [redacted] The civilian production consisted of castings for railroad freight car plants.

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[redacted] the manager was a Russian. The plant had about 5,000 workers, working in shifts.

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e. In Tarnow (Latitude 50° 3' North; Longitude 21° 0' East) there is a mechanical works which is probably subordinate to the Central Administration for Mechanical Equipment. It began to take its present form in 1949 with the conversion of a repair shop for locomotives. In 1954, new equipment was obtained from the USSR. The production is [redacted] at least 50 anti-aircraft guns per month. [redacted] the plant employed about 8,000 (?) workers. [redacted] a reduction of the production was noted.

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APPENDIX II

The Central Administration for Precision Equipment (Centralny Zarzad Wyborow Precyzyjnych) is responsible for the production of pistols, rifles, ammunition and explosives.

All enterprises subordinate to this administration are called "The Metal Works" (Zaklady Metalowe) plus the name of its location.

a. Zaklady Metalowe Skarzysko-Kamienna

b. " " Tarnow

These two are the most important plants. They are concerned primarily with assembly operations. A further 27 plants exist, of which the following are known.

c. Zaklady Metalowe Lowics, parts for army pistols.

d. " " " Krakow, " " " "

e. " " " Poznan, tied in with Zispo, now Ciegelski,
(bullets and cartridge cases)

f. " " " Wroclaw, tank components.

g. " " " Wroclaw, hygrometer plant.

h. " " " Walbrzych

i. " " " Rzeszow

j. " " " Warszawa (?), rifles.

k. " " " Radom (?), "

l. " " " Debe

Depots are found in Skarzysko-Kamienna, Tarnow, Leczyca, Warsaw-Grochow, and Bobrek.

a. The metal works Skarzysko-Kamienna, location Latitude 51° 8' North; Longitude 20° 55' East (midway between Radom and Kielce), was in existence before the war, but has undergone complete modernization.

The plant has eight production shops in addition to an office building. Of the shops one is a tool shop, another is used for thermic processing, one for galvanizing, one for parts production, and the rest are workshops.

[redacted] the manager was a Russian of Polish extraction.

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He was also the head of the Central Administration for Precision Equipment.

He had two Soviet advisers.

The labor force consists of about 6,000 men. Three shifts are worked in most of the divisions.

The plant is mainly occupied in assembling army pistols and producing ammunition for pistols. The production of pistols amounts to about 21,000 permonth. About 75 percent of this production is turned over to the USSR without compensation. Part of the Soviet share has gone to Soviet bases in Poland.

Formerly, the plant produced steel springs for civilian consumption. This production was discontinued in 1954 on the recommendation of the Soviet advisers.

The storage rooms are underground, and are located about one kilometer south of the plant within an area of about six square kilometers. The plant has the largest stores in Poland of pistols, pistol ammunition, and certain chemicals used in the arms industry.

Some kilometers from this plant is located the so-called Chemical Institute, one of the most important enterprises of Poland, which furnishes the arms industry with chemicals. This plant is partly underground. It has "several" production halls.

b. The Tarnow Metal Works (location: Latitude 50° 3' North; Longitude 21° 0' East). Construction was begun in 1947 and finished in 1954. The plant has large underground storage facilities within an area of three to four square kilometers.

A Russian managed the plant [redacted] He had no Soviet advisers. The working force amounts to about 2,000 men. Among the workers are many repatriates from the USSR.

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The greater part of Polish production of artillery ammunition and mines (the so-called smugacze) originates in this plant. The work of the plant consists mainly of assembly of parts coming from some of the other plants subordinate to the same administration.

In addition to ammunition, the plant also produces instruments (wskazniki) for tanks.

c. In the vicinity of Krasnik, about 40 kilometers south south-west of Lublin, there is an arms industry plant located within a fenced area 2 x 4 kilometers in extent. A residential area for about 10,000 persons is connected with the plant.

The plant receives considerable quantities of quality stell from the Baildon stell mill in Katowice. The production consists of light infantry weapons and artillery and antiaircraft ammunition. There is a special section for production of ball bearings. Of the eight production halls which were in operation [redacted] two produced ball bearings, two 25X1 assembled artillery projectiles and ammunition for hand weapons, one produced artillery shells, one produced rifles, one machined blanks for artillery projectiles, and one machined semi-finished parts for rifles and other hand weapons. [redacted] two more production halls were under construction. 25X1

APPENDIX III

The Central Administration for Means of Communications (Centralny Zarzad Sprzecu Komunikacyjnego) is responsible for the production of military aircraft. Plants subordinate to this administration are as a rule called "WSK-Factories" -- Means of Communications factories.

Polish aircraft production is strictly divided into civilian and military branches. The civilian branch produces, among others, the "Junak 8," mostly in Warsaw-Okecie and Warsaw-Grochow.

In 1953, the Soviet Union ordered Poland to begin building jet aircraft. A prototype of the jet LIM 2 (Mig 15) was furnished by the Soviets, and the following year the Poles began serial production of this plane. Production plans for periods of three months at a time were prepared by the Soviets and sent to Poland. This production [redacted]

[redacted] was discontinued in favor of the LIM 5 (Mig 17). 25X1

[redacted] the USSR in 1955 assigned to Poland the task of delivering 500 Mig 17 aircraft to China via the USSR. This order was [redacted] 25X1
[redacted] completed before the return of Gomulka.

The production of the LIM 2 amounted to about 45 planes per month, but rose at times to 60 planes per month. Of these, the Poles were permitted to keep two or three, while the rest was turned over to the USSR. Most of these planes were stationed at the Soviet bases in Poland. While they paid for no other weapons, the Soviets did pay for the aircraft they received. The price was two million zloties per plane. According to Polish estimates, the cost [of production] was considerably more than 2.5 million zloties per plane. All planes had to be approved of by a Soviet general attached to the Polish General Staff.

The planned production of the LIM 5 [redacted] was 45 planes, 25X1 which number was produced. Gomulka does not seem to have intervened to reduce the aircraft production. The production apparently went forward according to plan until the USSR requested that the production of jet aircraft be discontinued. Thereupon the production gradually decreased, and the Soviet advisers in the plants were dismissed.

The situation in the military aircraft industry [redacted]

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has been described as follows: About 50 percent of the labor force had been furloughed, the unskilled and politically unreliable workers having been let go first. In the assembly plant in Mielec the last of the LIM 5 series were being completed. In its place, a new series, a jet plane called the "GC" and "DD", was being produced. The production amounted to four or five planes per week. At the same time, preparations, nearing completion, were being made for the production of a jet bomber and a fighter of Polish design.

A Polish press report stated [redacted] that the Mielec

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plant was to take over the production of the Polish training plane, the TS-8 "Bies". Trybuna Ludu reported [redacted] that this plant had begun the production of small automobiles (the Mikrus MR 300).

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A further sign of adjustment in the aircraft industry is the fact that the plant in Swidnik, near Lublin, which formerly produced airframes has greatly expanded its production of helicopters.

One of the bottlenecks in the Polish aircraft industry is the shortage of qualified engineers and designers. The proportion of engineers to workers is 1:30, while in Czechoslovakia it is 1:5, [redacted]

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[redacted]
A further difficulty faced by the Polish aircraft industry is its dependence upon imports of instruments, electrical equipment, and aluminum.

The following plants, all called "Means of Communications Factories" plus the place name (Wytwarznia Sprzety Komunikacyjnego - WSK) are known:

- a. WSK Mielec (Aircraft assembly)
- b. WSK Rzeszow (Assembly of motors)
- c. WSK Swidnik (Airframe and helicopter production)
- d. WSK Wroclaw-Psie Pole (Various parts and motor components)
- e. WSK Kalisz (Parts and engines for the Junak and for helicopters)
- f. WSK Krakow (Parts and cases for radio apparatus)

g. WSK Pelcznica (Wheels)

h. WSK Debica (Screws and various small parts)

i. WSK Warszawa (Navigation instruments and parts for the Junak)

j. WSK Okecie in Warsaw (Production of the Junak training plane; main depot for parts imported from the USSR and Czechoslovakia)

k. WSK Gorzyce (Various non-ferrous castings)

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The following three plants have separate WSK sections only:

- a) The plant in Ustron which produces and grinds certain parts for the aircraft industry.
- b) The Aeronautical Institute (Instytut Aeronautyczny) in Gliwice conducts tests of certain parts.
- c) The automobile factory in Starachowice produces parts to be finished in WSK enterprises.

Among the enterprises which do not have WSK in their names and are thus not subordinate to the Central Administration for Means of Communication but nevertheless produce materials for the aircraft industry may be mentioned the alloy-steel mills Baidon in Karowice, Batory in Chorzow, and Swierczewski in Zawadzkie. The rubber goods factory Semperit in Krakow (Zaklady Przemyslu Gumowego) makes rubber mouldings and other rubber products for aircraft, but not tires, which are made in Zaklady Przemyslu Gumowego in Wolbrom (possible also in Debica), and are also imported from the USSR. Krakowskie Zaklady Metalowe in Krakow-Grzegorski and the steel mill Stalowa Wola produce certain metal parts. Plant A 5 in Warsaw (Zaklady Urzadzen i Aparatury Grzejnej) produces heating installations for aircraft. Plant A 8 in Bielsko-Biala makes small generators for aircraft.

a. WSK Mielec, in Mielec in southern Poland (Latitude 50° 30' East) was rebuilt after the war on the site of a ruined older factory, suffered severe damage in a fire in 1952. At the present time it has 12 production halls. All storage rooms are underground.

The plant manager is a Pole, not a Russian as is usually the case. [redacted]

[redacted] he was assisted by two Soviet advisers. Later the advisers may have been dismissed, but [redacted] have returned [redacted]

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[redacted] the plant employed about 5,000 workers. Two shifts are worked. The wages of the employees are considerably higher than those of other Polish workers, and their standard of living is on a level with that of workers in [redacted]

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The plant has its own design section. A large airfield for testing of aircraft is located about two kilometers from the plant.

[redacted] the jet plane LIM 2 was produced. The average production was 45 planes per month. At times it reached 60 planes per month. In 1955, preparations were begun for a change-over to production of the LIM 5, and [redacted] the production of this plane was begun. About 45 planes were produced. [redacted] the production seems to have practically ceased. It was resumed again [redacted] however, but at a smaller volume than formerly. Concerning changes in the production [redacted] see above.

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The prototype plane was furnished by the USSR. During the first production period the percentage of planes rejected was very high.

b. WSK Rzeszow, in Rzeszow (Latitude 50° 4' North; Longitude 21° 59' East), where jet engines are assembled, is the largest plant of the Polish warplane industry. It is located two or three kilometers south of the city proper. It has 10 production halls (of which the four largest were built during the period from 1950 to 1954), and underground storage rooms. The plant area comprises about six square kilometers.

The plant manager is a Pole. [] he had two Soviet advisers, later dismissed, but [] returned [] the plant employed about 8,000 workers.

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The production consists practically entirely of jet engines (LIS 2 and LIS 5), which are delivered to the plant in Mielec. Monthly production is estimated at 45 to 60 units. [] the plant might, at full capacity, be able to produce 90 to 100 engines per month. A small number (about 20 units per month) of racing motorcycles are also produced.

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During [] there was no production of jet engines. Thereupon production was resumed, but on a smaller scale than formerly.

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c. WSK Swidnik, 9 kilometers east of Lublin (Latitude 51° 35' East), produced airframes []

The plant's production

of helicopters, however, has increased considerably []

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[] helicopters were assembled from components obtained from the USSR, but at the present time all components, except engines, are apparently made in Poland. Plans call for the production of the engines as well in Poland []

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Tripling of the helicopter production is planned [] so that it will amount to "several hundred units". The plant's maximum capacity is said to be 50 to 60 helicopters per month, a figure which seems very high. For the present, the MI-1 (the Soviet SM-1), a three-seater helicopter, is being produced on Soviet license. A four-seater helicopter of Polish design, the BZ-4 "ZUK", is under discussion, but may not yet be beyond the experimental stage. Poland exhibited helicopters at the Leipzig and Paris trade fairs. []

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d. WSK Wroclaw-Psie Pole, located immediately north of Wroclaw (Latitude $51^{\circ} 6'$ North; Longitude $17^{\circ} 3'$ East), was built after the war, and has 15 production halls within an area of about six square kilometers. The storage rooms are underground.

[redacted] the plant manager was a Russian [redacted] assisted by two Soviet advisers. The working force was about 4,000 men.

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The production consisted of parts for jet engines, which were shipped to the Rzeszow plant, and motorcycle engines.

e. WSK Kalisz, (Latitude $51^{\circ} 45'$ North; Longitude $18^{\circ} 9'$ East), was from its beginning intended for the production of parts for automobiles.

[redacted] however, it produced parts for jet engines exclusively. The plant, which has underground storage facilities, was completed in 1952. It has three production halls, and employs about 1,000 workers.

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[redacted] the plant manager was a Pole. There are no Soviet advisers at the plant.

25X1

f. WSK Krakow, is located in the city of Krakow (Latitude $50^{\circ} 3'$ North; Longitude $19^{\circ} 58'$ East). It was built in 1953. It was managed [redacted] by a Pole, who had no Soviet advisers. The working force was about 800. The production consists entirely of parts for jet aircraft.

25X1

APPENDIX IV

The Central Administration for the Telecommunications Industry (Centralny Zarzad Przemyslu Tele-Technicznego - CZPT) supervises 16 enterprises, which are designated by the Letter T plus a number. Of these 16, eleven are wholly or in part engaged in production for military purposes.

[redacted] about 50 percent of the military production went 25X1 to the USSR. This production consisted mostly of radio transmitters and receivers for aircraft, tanks, and ships, and for army uses. Telephones for the army were also made. Formerly, broadcast jamming equipment was also made.

The radios transmitters and receivers carry the designations BZ 1 to BZ 5, AS 2 and AS 3. The monthly production [redacted] about 25X1 300 units for the BZ types, and about 700 units of the AS types.

a. The T-1, in Warsaw-Grochow is wholly engaged in military production. The plant, which employs close to 3,000 workers, was built in 1954-55. Radar equipment, among other things, is made. The first radar installation, of Soviet design, was delivered to the defense forces [redacted] The [redacted] plan called for production of 10 installations, but because of production difficulties, this figure may not have been reached. 25X1

b. The T-2, in Warsaw-Praga produces telephone switchboards for military purposes, among others. About 2,000 workers are employed in the plant.

c. The T-3, in Warsaw-Wola was built in 1948/49. It has about 3,500 employees. In 1955, about 20 percent of its production consisted of radio apparatus for infantry, of Soviet design. [redacted] however, 25X1 the production was converted to radio apparatus and gyroscopes for aircraft, and pilot's throat microphones. The production plan [redacted] included, among other things, 120,000 radio receivers, of which 10,000 were of a 2.5 kilogram portable Austrian model. 25X1

The military division of T-3 employs about 200 workers, and is primarily engaged in assembly of component parts made by other divisions and enterprises.

d. The T-4, in Lodz employs about 500 workers and produces telephone instruments for civilian and military purposes.

e. The T-6 in Dzierzonow, 15 kilometers southeast of Kraszowice (Latitude $50^{\circ} 50'$ North; Longitude $16^{\circ} 30'$ East), was built in 1949-1953, and has about 3,000 workers. [redacted] the T-6 is the largest enterprise of the [Polish] telecommunications industry. The military production of the plant consists of radio transmitters and radio equipment for artillery fire control. [redacted] the monthly production of such fire control apparatus amounted to 15,000 units. The [redacted] plan called for a gradual increase in this production, possibly to double the [redacted] figure.

However, difficulties were encountered in producing the wooden cases for the apparatus, and in addition, the poor management of the plant may have affected the production results, which may not have reached the goal [redacted]

[redacted] one tenth of the personnel of the T-6 was engaged in the military production. The corresponding figure [redacted] was about one fourth.

f. T-7, in Krakow (Latitude $50^{\circ} 3'$ North; Longitude $19^{\circ} 58'$ East), which has a working force of 700 to 1,000, produces radio parts, primarily condensers. The plant has no separate military division, but a special section checks deliveries of the best products, which go to the defense forces.

g. The T-9 in Radom (Latitude $51^{\circ} 21'$ North; Longitude $21^{\circ} 13'$ East) produces telephones for both military and civilian use.

h. The T-10 in Wrzesnia (Latitude $52^{\circ} 20'$ North; Longitude $17^{\circ} 40'$ East) employs about 1,200 workers, of whom one third are engaged in military production [redacted], which [redacted] consisted of, among other things, small motors for radar installations. The motors were of Soviet design, and made under the supervision of a Soviet expert who had come to the factory in 1954. The production also included 1,400 to 1,600

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mine detectors per year, intended for infantry and engineer troops. The T-10 has not been successful in fulfilling annual plans, and this has caused dislocations in the production of the T-3 and the T-6, among other plants.

i. The T-11 in Warsaw-Okocie, is apparently producing certain tank parts, but its primary production consists of lamps, lamp glass, and signal equipment and other electrical equipment for automobiles and motorcycles. The plant employs 1,300 workers.

j. The T-12 in Warsaw-Zeran has only 300 employees, and produces, among other things, radio transmitters for naval vessels and fishing boats.

k. The T-14 in Warsaw-Ochota was established in 1954. The enterprise was originally planned for production on a large scale of measuring instruments for other plants in the telecommunications industry, including those producing radar equipment. The development of the T-14, which [redacted] 25X1 employed 300 workers, has not come up to expectations. The production of the plant is now limited to low capacity auto-transformers, radio resistors, two types of signal generators, and oscilloscopes of Soviet type.

APPENDIX V

The Central Administration for the Lamp Industry (Centralny Zarzad Przemyslu Lampowego) was established in 1955 and is responsible for the production of poison gases. The lamp industry's civilian production consists of incandescent lamps for automobiles and miners' lamps. As late as [redacted] this branch of industry was in the process of great expansion. As concerns its production for military purposes, it worked for the USSR exclusively, but it had no Soviet managers or advisers.

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The main plant is located in Warsaw, where in 1955 the so-called lamp industry was started under the name of the Electronics Institute (Instytut Elektroniki). [redacted] when this plant was still in the process of development, it had about 400 workers. The plant has underground storage facilities.

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Smaller plants are [redacted] located in, among other places, Wroclaw, Krakow, and Katowice. [redacted] however, their production was relatively insignificant.

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The central depots for the "lamp industry" are located in the Ulica Rakowiecka, near the KEW headquarters, in Warsaw.

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APPENDIX VIThe Central Administration for Auxiliary and Optical Equipment

(Centralny Zarzad Aparatur Pomocniczych i Optycznych) coordinates the production of the 15 factories of the optical industry. About three fourths of the military production of this industry goes to the USSR. All of the optical firms, however, produce also goods for the civilian market.

The most important optical plant is located in Warsaw-Wola, and employs about 1,000 workers. Other such plants are known to be located in Warsaw-Grochow (300 workers), Tarnowskie Gory, Wroclaw, and Krakow.

APPENDIX VII

Map showing location of the plants of the Polish arms industry.

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